



[4910-13-P]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2010-0755; Directorate Identifier 2010-NE-12-AD]

RIN 2120-AA64

Airworthiness Directives; Rolls-Royce plc Turbofan Engines

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking (NPRM).

SUMMARY: We propose to supersede airworthiness directive (AD) 2012-04-01 that applies to all Rolls-Royce plc (RR) RB211-Trent 800 model turbofan engines. AD 2012-04-01 requires removal from service of certain critical engine rotating parts based on reduced life limits. Since we issued AD 2012-04-01, RR has further revised the life limits of certain critical engine rotating parts. This proposed AD would make additional revisions to the life limits of certain critical engine rotating parts. We are proposing this AD to correct the unsafe condition on these products.

DATES: We must receive comments on this proposed AD by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to <http://www.regulations.gov>. Follow the instructions for submitting comments.

- Fax: 202-493-2251.

- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE., Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

Examining the AD Docket

You may examine the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating Docket No. FAA-2010-0755; or in person at the Docket Management Facility between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this proposed AD, the mandatory continuing airworthiness information, regulatory evaluation, any comments received, and other information. The address for the Docket Office (phone: 800-647-5527) is in the ADDRESSES section. Comments will be available in the AD docket shortly after receipt.

FOR FURTHER INFORMATION CONTACT: Robert Green, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7754; fax: 781-238-7199; email: robert.green@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

We invite you to send any written relevant data, views, or arguments about this proposed AD. Send your comments to an address listed under the ADDRESSES section. Include “Docket No. FAA-2010-0755; Directorate Identifier 2010-NE-12-AD” at the beginning of your comments. We specifically invite comments on the overall regulatory,

economic, environmental, and energy aspects of this proposed AD. We will consider all comments received by the closing date and may amend this proposed AD because of those comments.

We will post all comments we receive, without change, to <http://www.regulations.gov>, including any personal information you provide. We will also post a report summarizing each substantive verbal contact we receive about this proposed AD.

Discussion

On February 10, 2012, we issued AD 2012-04-01, Amendment 39-16956 (77 FR 10355, February 22, 2012), “AD 2012-04-01,” for all RR RB211-Trent 800 model turbofan engines. AD 2012-04-01 requires removal from service of certain critical engine rotating parts based on reduced life limits. AD 2012-04-01 resulted from RR reducing the life limits of certain critical engine rotating parts. We issued AD 2012-04-01 to prevent the failure of critical engine rotating parts, which could result in damage to the engine and damage to the airplane.

Actions Since AD 2012-04-01 Was Issued

Since we issued AD 2012-04-01, RR has reduced the life limit of two affected critical engine rotating parts and extended the life of an additional critical engine rotating part. Also since we issued AD 2012-04-01, the European Aviation Safety Agency (EASA) has issued AD 2016-0223, dated November 8, 2016, which imposes new life limits on certain critical engine rotating parts.

FAA's Determination

We are proposing this AD because we evaluated all the relevant information and determined the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Proposed AD Requirements

This proposed AD would require replacement of certain critical engine rotating parts at a newer, lower life limit. This proposed AD would also extend the life limit for an additional critical engine rotating part.

Costs of Compliance

We estimate that this proposed AD affects 16 engines installed on airplanes of U.S. registry.

We estimate the following costs to comply with this proposed AD:

| Estimated Costs | | | | |
|---|------------------------------------|------------------------------------|-------------------------|-------------------------------|
| Action | Labor cost | Parts cost | Cost per product | Cost on U.S. operators |
| Replacement of critical engine rotating parts | 0 work-hours x \$85 per hour = \$0 | \$45,000 (pro-rated cost of parts) | \$45,000 | \$720,000 |

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, Section 106, describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the Agency's authority.

We are issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701, “General requirements.” Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

We have determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that the proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Is not a “significant rule” under the DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979),
- (3) Will not affect intrastate aviation in Alaska to the extent that it justifies making a regulatory distinction, and
- (4) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by removing airworthiness directive (AD) 2012-04-01, Amendment 39-16956 (77 FR 10355, February 22, 2012), and adding the following new AD:

Rolls-Royce plc: Docket No. FAA-2010-0755; Directorate Identifier 2010-NE-12-AD.

(a) Comments Due Date

We must receive comments by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

This AD supersedes AD 2012-04-01, Amendment 39-16956 (77 FR 10355, February 22, 2012).

(c) Applicability

This AD applies to all Rolls-Royce plc (RR) RR RB211-Trent 875-17, 877-17, 884-17, 884B-17, 892-17, 892B-17, and 895-17 turbofan engines.

(d) Subject

Joint Aircraft System Component (JASC) Code 7200, Engine (Turbine/Turboprop).

(e) Unsafe Condition

This AD was prompted by RR revising the life limits of certain critical engine rotating parts. We are issuing this AD to prevent the failure of critical engine rotating parts, damage to the engine, and damage to the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(1) After the effective date of this AD, remove from service the parts listed in

Table 1 to paragraph (f) of this AD before exceeding the new life limit indicated:

Table 1 to Paragraph (f) – Reduced Part Lives

| Part Nomenclature | Part Number | Life in Standard Duty Cycles | Life in Cycles using the HEAVY Profile |
|---|--------------------|-------------------------------------|---|
| Intermediate Pressure (IP) Compressor Rotor Shaft | FK24100 | 12,500 | 11,500 |
| IP Compressor Rotor Shaft | FK24496 | 8,860 | 8,180 |
| High-Pressure Compressor (HPC) Stage 1 to 4 Rotor Discs Shaft | FK24009 | 4,560 | 4,460 |
| HPC Stage 1 to 4 Rotor Discs Shaft | FK26167 | 5,580 | 5,280 |
| HPC Stage 1 to 4 Rotor Discs Shaft | FK32580 | 5,580 | 5,280 |
| HPC Stage 1 to 4 Rotor Discs Shaft | FW11590 | 8,550 | 6,850 |
| HPC Stage 1 to 4 Rotor Discs Shaft | FW61622 | 8,550 | 6,850 |
| HPC Stage 5 and 6 Discs and Cone | FK25230 | 5,000 | 5,000 |
| HPC Stage 5 and 6 Discs and Cone | FK27899 | 5,000 | 5,000 |

| Part Nomenclature | Part Number | Life in Standard Duty Cycles | Life in Cycles using the HEAVY Profile |
|------------------------------|--------------------|---|---|
| IP Turbine Rotor Disc | FK21117 | 11,610 | 10,400 |
| IP Turbine Rotor Disc | FK33083 | 0 | 0 |

(2) Reserved.

(g) Installation Prohibition

After the effective date of this AD, do not install any IP turbine discs, P/N FK33083, into any engine.

(h) Alternative Methods of Compliance (AMOCs)

The Manager, Engine Certification Office, FAA, may approve AMOCs for this AD. Use the procedures found in 14 CFR 39.19 to make your request. You may email your request to: ANE-AD-AMOC@faa.gov.

(i) Related Information

(1) For more information about this AD, contact Robert Green, Aerospace Engineer, Engine Certification Office, FAA, Engine & Propeller Directorate, 1200 District Avenue, Burlington, MA 01803; phone: 781-238-7754; fax: 781-238-7199; email: robert.green@faa.gov.

(2) Refer to MCAI European Aviation Safety Agency, AD 2016-0223, dated November 8, 2016, for more information. You may examine the MCAI in the AD docket on the Internet at <http://www.regulations.gov> by searching for and locating it in Docket No. FAA-2010-0755.

Issued in Burlington, Massachusetts, on January 11, 2017.

Colleen M. D'Alessandro,
Manager, Engine & Propeller Directorate,
Aircraft Certification Service.

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